

REMARKS

Claim 7 has been canceled, and Claim 5 rewritten to more definitely set forth the invention and obviate the rejection. Support for the amendment of Claim 5 can be found in the Specification in Figures 3(b) and 4, and on page 8, fourth paragraph. In addition, new claims 10-12 have been added. Support for new claims 10-12 can be found in the specification on page 9, lines 9-24). The present amendment is deemed not to introduce new matter. Claims 5-6 and 8-12 are now in the application.

Reconsideration is respectfully requested of the rejection of Claim 5 under 35 U.S.C. §102(b) as being anticipated by Van Heugten, et al.

The ophthalmologic knife of the present invention is designed for enlarging the incision of the eyeball. This is accomplished by providing on the ophthalmologic knife a guide portion formed in a width direction of the blade portion having an arc-shaped linear edge without a sharp point disposed between the two cutting edges for guiding the blade portion into the incision formed at the eyeball. This feature is illustrated in Fig. 1, described in the Specification, page 8, last two paragraphs, and now claimed in amended claim 5 herein. In the Specification, it is pointed out that:

“Although the width of the guide portion 4 is required to be smaller than the width of the primary incision formed at the eyeball, the flat shape **is not required to have a sharp tip**. In other words, since the guide portion 4 serves to guide the blade portion 1 to the primary incision 32 without incising the cornea 31 of the sclera, a portion of the guide portion 4 is just required to be smoothly guided into any portion of the primary incision 32.”

In the rejection, the Examiner recognizes that items 58 and 60 of the Van Heugten, et al. represent cutting edges as shown in (Fig. 5). However, the Specification of Van Heugten, et al. points out in column 4, lines 33-40, that with regard to Fig. 10:

“first and second longitudinal sides 58 and 60 extend from shoulder 56 to proximal end 48”, and that they are merely side edges of the handle.

The Specification in column 4, lines 38 and 39, particularly points out that:

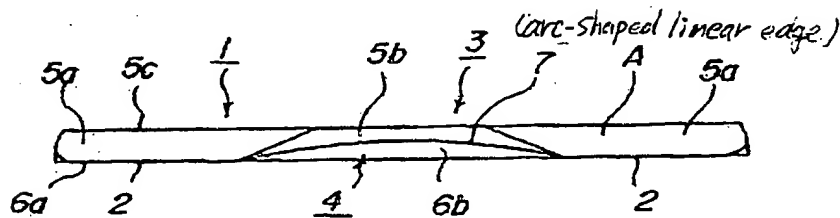
“First and second cutting edges 62 and 64 extend angularly from shoulder 56 to distal end 50.”

Moreover, in the rejection, the Examiner equates portions 70', 72', 78' and 80' to the guide portions of the ophthalmologic knife of the present invention. In this regard, it is respectfully submitted that 70', 72', 78' and 80' merely define the faces which form the cutting edges 62 and 64.

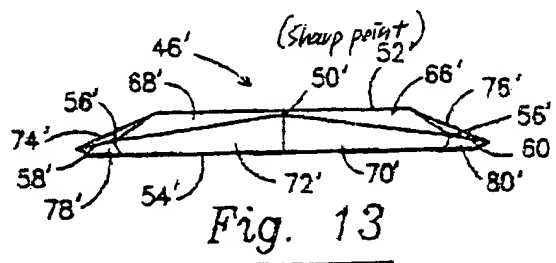
However, it is believed that there is no disclosure whatever in the Van Heugten, et al. of an ophthalmologic knife being guided into an incision formed at an eyeball and for widening the width of the incision, which contains a guide portion disposed in a width direction of the blade portion **having an arc-shaped linear edge WITHOUT A SHARP POINT disposed between the two cutting edges** for guiding the blade portion into the incision formed at the eyeball, as now claimed in amended claim 5 herein. On the contrary, that feature exists only in the present invention, and constitutes an important element or aspect of the claimed ophthalmologic knife of the present invention.

In particular, in contrast to the knife disclosed by Van Heugten, et al., the knife of the present invention contains NO sharp point, as is illustrated below:

(Front shape of the present invention)



(Front shape of the reference)



Thus, as shown above in the present invention, "to prevent the edge 7 from incising, the intersecting portion between the slope 5b and the slope 6b (the edge 7) could be formed not of an edge-life shape, but of a curved shape (chamfering). In this case, since the edge 7 hardly has much incisiveness, the angle of the edge 7 could be reduced so that the guiding into the primary incision 32 could be performed more smoothly." (Specification, page 9, lines 27-31). "In such case, the guide portion 4 including the edge 7 would not damage the cornea 31 surrounding the primary incision 32, the sclera, or the crystalline lens". (Specification, page 10, lines 8-9).

Importantly, the ophthalmologic knife of the present invention does NOT have a sharp point, and HAS an arc-shaped linear edge, both features of which are absent in the knife disclosed in the cited Van Heugten, et al. reference. For these reasons, it is respectfully submitted that the amended claims remaining in the application are neither anticipated by nor rendered unpatentably obvious over Van Heugten, et al. Consequently, the Examiner would be justified in no longer maintaining the rejection. Withdrawal of the rejection is accordingly respectfully requested.

Reconsideration is respectfully requested of the rejection of Claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Van Heugten, et al.

The Van Heugten, et al. reference is discussed above.

It is respectfully submitted that neither Van Heugten, et al. nor any of the admitted prior art of record discloses an ophthalmologic knife being guided into an incision formed at an eyeball or having a guide portion disposed in a width direction of the blade portion **having an arc-shaped linear edge without a sharp point disposed** between the two cutting edges for guiding the blade portion into the incision formed at the eyeball, having a bottom surface, a top surface, a wedge-shaped cross section formed at a side cross section thereof in a longitudinal direction of the knife, cross sectional slopes formed at both the top surface and bottom surface thereof, and having a greater angle than that of the cutting edges, the top surface having an inclination angle different from that of the bottom surface.

Moreover, there is no disclosure or suggestion in Van Heugten, et al. that the inclination angle of the bottom of the guide portion should be greater than the top surface to effectively

incise tissue. In view of the present amendment of Claim 5, it is respectfully submitted that the rejection fails since the features now called for in the claims herein are nowhere disclosed in Van Heugten, et al.

With regards to the admitted prior art of record shown in Figures 8 -10, as described on page 2, last paragraph, to page 3, second paragraph, unlike the present invention, the prior art knife has a flat surface 55b and an obtuse edge 55d in the area of the guide portion claimed herein. This flat surface 55b of the prior art knife tends to contact and be caught upon the rim portion of the cornea comprising the primary incision 53, preventing smooth insertion of the knife into the primary incision. Furthermore, this flat surface 55b can cause scraping and damaging of the eyeball. In the past, to avoid these problems, when trying to widen a highly self-sealing incision formed in the eyeball, knives with sharp points have been used, but such knives pose the risk of accidentally creating new incisions.

Proof of an unexpected improvement can rebut a *prima facie* case of obviousness. *In re Murch* 464 F2d 1051, 175 USPQ 89 (CCPA 1972; *In re Costello* 480 F2d 894, 178 USPQ 290 (CCPA 1973). The present inventors unexpectedly discovered that by providing the knife with a guide portion disposed in a width direction of the blade portion **having an arc-shaped linear edge without a sharp point** disposed between the two cutting edges for guiding the blade portion into the incision formed at the eyeball, having a bottom surface, a top surface, a wedge-shaped cross section formed at a side cross section thereof in a longitudinal direction of the knife, cross sectional slopes formed at both the top surface and bottom surface thereof, and having a greater angle than that of the cutting edges, the top surface having an inclination angle different

from that of the bottom surface, the above difficulties encountered with the prior art ophthalmologic knives could be avoided.

In view of the above legal authority, the arguments presented above, and the amendments to claim 5 made herein, it is believed that the Examiner would be justified in no longer maintaining this rejection. Withdrawal of the rejection is accordingly respectfully requested.

Reconsideration is respectfully requested of the rejection of Claims 5 and 7-9 under 35 U.S.C. §103(a) as being unpatentable over admitted prior art in view of U.S Patent No. 5,713,915 to Van Heugten, et al.

Van Heugten, et al. is discussed above.

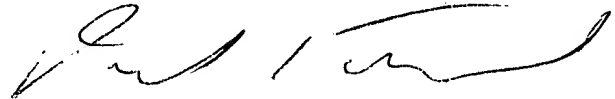
As discussed above, and shown in the illustration above, the guide portion is disposed in a width direction of the blade portion **having an arc-shaped linear edge without a sharp point** disposed between the two cutting edges for guiding the blade portion into the incision formed at the eyeball. There is no "flat bottom surface", as shown in the admitted prior art of record. Further, as the Examiner admits on page 4 of the instant Office Action, the "flat surface of the prior art device is in greater danger of snagging on the sides of the incision and forming an additional cut where the practitioner had not intended". The present inventors unexpectedly discovered that an arc-shaped linear edge WITHOUT a sharp point (as is now claimed herein in base claim 5) would avoid such problems. It is maintained that such an alteration in design would NOT have been obvious to one of ordinary skill in the art at the time the invention was made, as is argued by the Examiner herein.

For these reasons, it is respectfully submitted that the Examiner would be justified in no longer maintaining this rejection. Withdrawal of the rejection is accordingly respectfully requested.

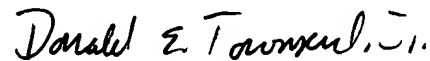
In view of the foregoing, it is respectfully submitted that the application is now in condition for allowance, and early action and allowance thereof is accordingly respectfully requested. In the event there is any reason why the application cannot be allowed at the present time, it is respectfully requested that the Examiner contact the undersigned at the number listed below to resolve any problems.

Respectfully submitted,

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